The Medical Fortnightly.

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UNDER THE EDITORIAL DIRECTION OF

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A COSMOPOLITAN BIWEEKLY FOR THE GENERAL PRACTITIONER

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Editorial Department.

AT THIS season of the year there is no one subject which interests the physician more than pneumonia. Of perennial importance and with a tendency, so statistics indicate, toward becoming of greater consideration because of the increased number of cases, pneumonia should and does deserve a prominent place in discussion of medical subjects. We have read with profit the following editorial in the *Archives of Pediatrics*, discussing the treatment of pneumonia in children: "Much has been said during recent years upon the treatment of pneumonia in children, and among pediatric specialists there is less divergence of opinion regarding it than upon the treatment of most diseases.

The Treatment of Pneumonia in Children.

"The practice advised by them differs, radically, however, from that adopted by large numbers of general practitioners. The tendency of treatment by men of broadest experience is toward simplicity and the use of few drugs. The prevailing tendency of the general practitioner is toward complexity and the use of much medicine.

"In the wards of well-conducted hospitals, under practitioners of extensive experience, one finds the chest protected by flannel or a cotton jacket loosely applied, with perhaps the occasional use of a mustard paste. The desire is to embarrass as little as possible the respiration, which is always labored in pneumonia. In private practice the chest is too often loaded by a heavy poultice, the weight of which must be lifted from thirty to fifty times or more a minute by respiratory muscles already over-burdened.

"In the one case precaution is taken that the fever shall not be added to by a steaming poultice, excessive clothing and air-tight and overheated room. In the other the necessary fever of the disease is increased by the local treatment and the fears of the mother lest the child take 'cold.'

In the one case, the fact being recognized that the disease is one marked by prostration, depression and exhaustion, the strength is conserved in every way. The child is disturbed as little as possible, and the strength is not unnecessarily wasted. Nauseating medicines are avoided, and nourishment is looked upon as of vital importance. In the other case, the child

is not given sufficient rest. The temperature is taken too often; something is being constantly done; doses are unnecessarily multiplied. They are frequently given with a struggle, and, if unpalatable, they disturb the stomach and destrov the already impaired appetite, and thus take away one great source of reliance—adequate nourishment.

"The heavy poultices, at first hot and steaming, but soon cold and soggy, the excessive clothing, the frequent disturbance of the child in over-zealous efforts to cure, the nauseating drugs forced down against the protest of a revolting stomach—all these, notwithstanding their discomforts, might be tolerated if they gave better results and saved more lives than do other methods. When we know that instead of saving more lives, they actually save less than do the simpler methods, what can be said regarding persisting in such treatment.

"The picture here drawn is not an exaggerated one. It is of too common occurrence. Over-heating of the patient, over-giving of drugs and too frequent disturbance are errors very often seen by consultants. Ammonia, ipecac, squills and paregoric are largely given to children ill with pneumonia. Frequently several of these are combined, with licorice and syrup as a vehicle. Some of these mixtures could not be more evilly effective were it deliberately planned to destroy the appetite and ruin the digestion. There is no excuse for such combinations when we know that they have so little effect over pneumonic processes.

"Fever is a necessary feature of pneumonia, and unless it ranges abnormally high need cause no alarm. In the ordinary type of the disease it is worse than futile to try to force it down by the use of coal-tar antipyretics. The child in too many cases soon becomes cyanotic, with embarrassed circulation and respiration. The repeated administration of smaller doses result in increasing the depression natural to the disease.

"If the practitioner wedded to these ancient methods of treatment could realize how much better results he would obtain, and how much more comfortable his little patients would be with less heroic and complex treatment, he would at once abandon it and adopt more rational methods."

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Laryngeal Tuberculosis.

IT IS important to recognize laryngeal tuberculosis early, inasmuch as timely treatment can ameliorate, if not cure, the often distressing effects of this disease. Physicians, as a rule, are not thorough enough in their examination of a patient suffering with throat trouble, and are too prone to disregard the necessity of using the laryngoscope in diagnosis. Again, because of the absence of other evidences of the presence of tuberculosis, it is very rare, for a diagnosis of tubercular laryngeal involvement to be made. Curtis (*The Laryngoscope*, December, 1901) in speaking of the early appearance of laryngeal tuberculosis, which by the way is a seasonable paper and one of great value, because the writer speaks with authority, says:

"The weight of evidence (in the manner of infection in tuberculous laryngitis), is in favor of the theory of a secondary sub-mucous infection,

either through the lymphatic and vascular system, or through the lymph spaces by infection of their endothelial lining membrane.

"Again, autoinoculation of the larynx occurs in recently infected cases, possibly before the toxins have rendered the larynx less prone to the possibility of autoinfection by the bacilli in the sputum."

The infection takes place in the larynx at early stage, pre-existing to the pulmonary complications. It is possible to have laryngeal involvement before the bacilli are discovered in the sputum.

It is a mistake to look only for superficial erosions in suspected cases; much more important is the close examination of the interarytenoid space and the crenated appearance of the fold. Then, again, before any edematous condition of the arytenoid tissues supervenes, we must watch carefully for the sub-mucous yellowish gray spots which appear sooner or later beneath the translucent membranes of this region and the aryepiglottic folds. These early manifestations of tubercle are sometimes present and may be demonstrated before even a swelling of the folds or arytenoid takes place, for the latter condition is due to the rapid development of these sub-mucous foci of infection. It is in these cases early diagnosed that we may hope to obtain brilliant results from the injection of guaiacol, carbolic acid or other antiseptics into the tissues, instead of waiting for the ulceration which we would attack by the curette after the method of Heryng, afterwards applying lactic acid, or by the even more heroic method of Krause with his cutting forceps and spoons. Another indication of the possibility of a tuberculous infection in its initial stage is a simple persistent congestion of one cord with a slightly swollen appearance, the mucous membrane being markedly vascular over the entire cord.

In the early manifestations of laryngeal tuberculosis there is always a feeling of general languor and debility complained of, far in excess of that which the lung complication alone would cause, for in many cases there is no physical evidence of pulmonary complication. We know that the autopsy frequently discloses, in persons who have died of other diseases, healed cicatrices of tuberculous tissues in the lung, which condition had been unsuspected during the life of the subject. This exhaustion which I have alluded to must consequently be regarded as pathognomonic when it occurs with a subnormal morning temperature and evidences of laryngeal disturbance and lack of motility of the cords. This lack of motility of the cords may arise either from a beginning muscular infiltration, or from pressure upon the recurrent nerves exerted by an enlarged lymphatic gland. In the latter case the disturbance of motion is generally unilateral. Following closely on these symptoms comes the consciousness of the possession of a larynx, which in turn ushers in the clumsy impression in swallowing and vocal fatigue in talking. Later, when infiltration goes on to a necrotic stage with erosion, we have the pain and dysphagia which ushers in the final tableau in all its vivid horror and distress. If we can, by studying the initial evidences, find a means of everting this disease, the management of which is the most lamentable experience in our specialty, it behooves us to do so.

The Reviewer's Table.

Books, Reprints, and Instruments for this department, should be sent to the Editors, St. Louis.

ATLAS AND EPITOME OF BACTERIOLOGY. A text-book of Special Bacteriologic Diagnosis. By Professor Dr. K. B. LEHMANN, Director of Hygienic Institute in Wurzburg: and R. O. NEWMANN, Dr Phil. and Med., Assistant in the Hygienic Institute in Wurzburg. From the Second Enlarged and Revised German Edition. Edited by GEORGE H. WEAVER, M. D., Assistant Professor of Pathology; Rush Medical College, Chicago. In two volumes. Part I, Consisting of 632 colored figures on 69 lithographic plates. Part II, consisting of 511 pages of text, illustrated. Philadelphia and London: W. B. SAUNDERS & CO., 1901. Cloth, $5.00 net.

THE use of lithographic plates for the elucidation of the text is especially well adapted to this subject. Diagnosis in bacteriology depend only infrequently on the special shape of the individual, the behavior on different culture media and with various stains being the important points, and these can be well represented by colored plates, whereas photographs would be of little value. All the varieties important in medicine and those pathogenic to animals are illustrated, showing growths in agar, gelatine, potato, etc., and also the principal staining reactions. The text is divided into a general and a special part. The general part gives a survey of the principal properties of bacteria, especially as to their diagnostic value. The conditions of life and the various culture media, the results of their activity, such as the formation of poisons and the effect on the tissues, also predispositions, resistance and immunity are considered. The special part follows as nearly as possible a natural botanical classification, and gives complete description of the important varieties and of many not so important. The system of nomenclature is original with the authors, and has been accepted in whole or in part by the most important German texts. The concise and scientific manner of the text, the accuracy and careful selection of the plates make a work which for practical use would be difficult to equal.

AMERICAN MEDICAL ASSOCIATION. — Those intending to join the "Missouri Valley" excursion party to Saratoga Springs, in June, should send in their names at once, in order to secure Pullman accommodations. This party will get the benefit of reduced rates on the railway, and at the hotels, besides the advantage of travelling in congenial company. This party will be limited to physicians and their families. Connection will be made at Chicago with the "Journal A. M. A." train, consisting of elegant sleeping, parlor, dining and observation cars, running through without change to Saratoga Springs. A stop will be made at Niagara Falls on Monday morning, allowing those who have never seen the Falls from the Canada side, to experience new pleasure in viewing the World's grandest cataract. A daylight boat trip down the Hudson, after the meeting, is being arranged, at reduced rates. Tickets, covering the entire trip, will be sold at a low rate to a limited number, who will be quartered together at a first class hotel in Saratoga Springs. Address Chas. Wood Fassett, St. Joseph, Mo., for further particulars.

Correspondence.

Beriberi and Carbonic Gas from Sugar Cargoes.

Editor Medical Fortnightly:—

SIR.—For the conversion of those who do not believe that sugar cargoes can give off carbonic gases on long voyages, please print the enclosed clipping, which I found hidden away among some of my notes. I believe that those cargoes are responsible for the outbreaks of beriberi which occur so often in their ship's crews, because of the carbonic gases which are eliminated. The charcoal stoves of Japan in the same way cause beriberi in houses and crowded barracks only during the wet season, because the heavy air then prevents the dissipation of the poison.

DEATH FROM SUGAR GAS.—The bark Lillian, which arrived here today from Demerara with a cargo of sugar, brings a remarkable story of the death at Demerara of the first mate, Alexander F. Cann, from inhaling the carbonic gas arising from the sugar in the hold. The cabin boy had been into the hold on an errand, and, not returning, Cann went below to see what was the matter. As he did not return, an investigation was made and Cann was discovered lying dead, black in the face, and the boy lying on him. Cann had evidently been trying to save the boy. The latter was unconscious, but was finally revived. Cann's death caused a great sensation in Demerara and the vessel was detained four days while an investigation was made. Death from sugar gas is something that had never been heard of before.—*Public Ledger*, Philadelphia.

Yours truly, ALBERT S. ASHMEAD, M. D.

New York, January 16, 1902.

PHYSICIANS WHO OPPOSE VACCINATION.—The recent occurrence of smallpox in the families of a number of physicians who oppose vaccination is a most serious matter. It is said that "vaccination by the mouth," or "by the stomach," is the method advised by them. Such phrases, according to science, betray an obstinacy that is worthy of punishment. We can find some excuse for lay folk, wholly ignorant of physiology, history and statistics, who oppose vaccination, but in physicians there is no excuse whatever. The testimony as to the value of vaccination is so overwhelming that those who do not admit it have no right to pass from the sick-room of patients with highly infectious diseases and scatter the germs among the people. Such physicians should be quarantined with their patients. Argument will have no effect upon such minds, and the swift punishment of their delusions by the occurrence of smallpox in themselves or in their families will have no influence upon their views or in their advice to their patients. In the name of medicine, to oppose the best established medical truth, and, in the name of therapeutics, to scatter disease is an outrage upon the community.—*American Medicine.*

OUR MONTHLY QUIZ.

Prizes Open to Fortnightly Subscribers.

TOPIC FOR FEBRUARY.

1. How do you treat the pernicious vomiting of pregnancy (medical and hygienic treatment)?

TOPIC FOR MARCH.

2. How do you treat the rheumatic affections, viz.: Rheumatic fever, sub-acute and chronic rheumatism?

Answers should reach this office not later than the 15th of the month.

Questions for discussion in this department are announced once a month.

For the best and most practical answer to any one of these questions we will give a prize of $5.00. To the second best a subscription to the FORTNIGHTLY for the year. The answers must be short, no one answer to contain more than four hundred words. We shall publish the substance of such of the answers as seem most likely to prove interesting to our readers.

Only subscribers to the FORTNIGHTLY will be recognized as competing (although we shall be pleased to hear from others who have ideas to suggest), and all persons known to be engaged in medical journalism are disqualified. Prizes will not be awarded to the same person more than once each year. Every answer must be accompanied by the writer's full name and address.

A PHYSICIAN FINED FOR NOT REPORTING A CASE OF SMALLPOX.—A Brooklyn physician pleaded guilty in the Court of Special Sessions to a charge of having failed to report a case of smallpox which he had attended, and was fined $50. He first diagnosed the case as one of diphtheria, but when convinced that it was smallpox, had neglected to notify the health authorities.

BETTER THAN THE ELECTRIC CHAIR.—Professor M. Berthelot, the renowned chemist, whose fiftieth anniversary as professor of chemistry in the College de France, Paris, has recently been celebrated, suggests the use of carbonic oxide for the production of death for criminals, as employed for the destruction of stray dogs. He says that this is a quiet and painless death, and one that does not shock the sensibilities.

EXTERMINATION OF MOSQUITOS.—At the next session of the New Jersey State Legislature the state entomologist, T. B. Smith, will urge the passage of a bill asking an appropriation of $10,000 to be devoted to investigations concerning mosquitos, and if it is found necessary to provide means for their extermination. A few years ago proposed legislation against the mosquito in New Jersey met violent opposition because the bite of the mosquito was held a cure for rheumatism.

Original Department.

PAPERS for the Original Department should be in hand one month in advance, and contributed to THE MEDICAL FORTNIGHTLY exclusively. A liberal number of extra copies will be furnished authors, and reprints may be obtained at reasonable rates, if request accompanies the manuscript. Engravings from photographs furnished free.

Contributions, and books for review, should be sent to the Editors, 312 Century Building, St. Louis.

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Prophylaxis and Treatment of Scarlet Fever.

BY NEWTON M. OTIS, M D.,

FAIRBURY, ILL.

Read before the Livingston County Medical Society.

SCARLET FEVER is, with the possible exception of small-pox, the most contagious of the acute infectious diseases, and the physician's duty in regard to prophylaxis is an imperative one. The whole subject is one of quarantine of the patient and his attendants, and the disinfection of the patient, the room he occupies and everything that was brought in contact with him. This must be insisted upon in the mildest as well as in the most severe cases.

The patient should occupy a room from which everything not absolutely essential to comfort has been removed. This includes all curtains, rugs, pictures, hangings, clothing, etc. It should be well lighted and heated, and as far removed and completely isolated from the other living rooms of the dwelling as possible. Into it only the physician and nurses should enter. Whenever possible an adjoining room should also be set aside for the use of the nurse and immediate attendants.

I do not believe that the hanging of a sheet moistened with carbolized or other germicidal solution, over the door or in the room, has any other value than to impart a false sense of security. It should be remembered that the area of contagion in scarlet fever is small, probably but a few feet from the patient, and the infection is carried from the sick-room, either by the attendants, or by the bedding, clothing or excreta of the patient, or by some object brought in close contact with him. *Everything in a room occupied by a scarlet fever patient must be looked upon as a possible source of infection.*

The physician himself too often ignores the very precautions he insists others should observe, and, as an example, and for the protection of his patients, before entering the sick-room should don a garment which completely covers his clothing, and before visiting other patients should wash his hands, face and beard with a germicidal solution. The nurse is more liable than the physician to convey the disease, and upon leaving the apartments of the sick should make a complete change of clothing and use a germicidal solution, paying especial attention to her hair.

Quarantine should be maintained for a period of six to eight weeks from the date of invasion. It must be longer if at the expiration of this time desquamation is not complete, or the case is complicated by suppurating glands of the neck or a purulent discharge from the ear, nose or throat. In very mild cases four weeks is probably a long enough time for quarantine.

For the disinfection of the clothing, bedding, towels, etc., a standard solution of copper sulphate 1 lb. and bichlorid of mercury, drachms 4, to the gallon of water, and used in the proportion of two ounces to the gallon is efficient and cheap. Into a boiler or tub containing this solution, all bedding and clothing is placed, followed by the usual process of the laundry. The excreta should stand for some hours in a strong carbolic or chlorinated lime solution before they are disposed of. Dishes, trays, napkins, etc., should first be rinsed in a disinfecting solution before leaving the sick-room.

When desquamation begins the patient should receive a daily soap and water bath, and twice daily should be annointed with a 5 per cent carbolized vaseline or olive oil.

The room occupied by the patient should be disinfected preferably with formaldehyde gas, but if an apparatus is not at hand fumigation with sulphur, if properly done, is efficient. At least 4 lbs. of sulphur must be used for each 1000 c. feet of space. All doors and windows must be closed and their crevices stopped. The walls should be moistened, or wet paper hung in the room, as moisture is essential to success. Leave the room closed for twenty-four hours, after which scrub the walls and wood work with a bichlorid solution. All books, pictures and playthings which have been in the hands of the patient should be burned.

Formaldehyde gas is of course superior to sulphur as a disinfectant. At least one pint of fluid must be used for each 1000 cubic feet of space, and it is to be remembered that its action is stronger in a warm, dry atmosphere. It has been shown that sheets sprinkled with formaldehyde and hung in a room which has been tightly closed and previously warmed forms an easy way of using this agent. An ordinary sheet will absorb about 150 to 200 cubic c. of formalin, and this is sufficient to disinfect 500 cubic feet of space. Recent experiments of Yehrman, of the Chicago Board of Health, have demonstrated the effectiveness of the sheet method of using formalin. Its simplicity, together with the fact that unlike sulphur, it will not fade or injure the contents of the room, will undoubtedly make this the common method of disinfection. It is recommended that after the sheets are hung in the room the formalin be sprinkled on them by means of an atomizer.

The efforts of a physician to prevent the spread of a contagious disease is usually a thankless task, and not always can we carry out in detail the methods advocated in this paper, but the nearer we can approach it, the more certain will be our success.

Treatment.—In no disease of childhood is it more important to treat the patient and not the disease than in scarlet fever. In a disease which presents itself in such varied types, and which has so many complications that every case must be a law unto itself. Since Sydenham in the seventeenth century gave us the first clear description of scarlet fever until the present time, many drugs have been offered as specifics, but all have proved valueless, and a clearer conception of the disease has taught us that it has a self-limited course which cannot be modified by any known treatment. Our efforts are to modify its symptoms, shorten its course and prevent its complications.

I shall endeavor not to trespass on the subject which is to follow, but a discussion of scarlet fever would be incomplete without considering those complications of the throat, ear and kidneys, which occur with such frequency as to become a part of the clinical history of most cases.

Acknowledging that our treatment is purely symptomatic, I shall not consider the disease in its various stages, but discuss the therapeutic measures applicable to the symptoms.

Fever.—For the reduction of the temperature the use of cold water supersedes all other measures in efficiency. Mild cases with a temperature below 102.5 require no treatment, but sponging with water at a temperature of 86 will do much to allay restlessness and produce a feeling of comfort. A temperature of 104 or over is always an indication of active measures and either the cool bath, or cold pack will be found useful. I prefer the cold pack, as it is less troublesome to apply and more certain in its effect. The patient is wrapped in a sheet which has been dipped in water at a temperature of 75 or 80 degrees and placed in bed with light woolen blankets. The nurse should place a hot water bottle at the patient's feet, as the extremities are apt to become chilled. An ice bag or cold cloths are applied to the head. The patient should remain in the pack from fifteen to twenty minutes, cold water being sprinkled on the enveloping sheet at frequent intervals, with gentle rubbing of the body as long as the pack is continued. The pack not only reduces temperature, but in cases characterized by the tardy appearance of the eruption, it will be found the quickest means of developing the full rash. There is one other measure for using cold water for the reduction of temperature which is not as commonly used as its merits would warrant. I refer to the high colon injection of ice water. In malignant cases with very high temperature this procedure will be found very efficient. The water must be as cold as would be used for drinking purposes, and must be injected high into the colon by means of a long rubber tube. This is one of the quickest and surest way of reducing temperature.

I do not believe the cold tar derivatives should be used for their antipyretic effect, but small repeated doses of phenacetine will be found useful

for their sedative action. Where there is great restlessness, sodii bromid, either alone or in combination with phenacetine has proved useful. Plenty of cold water should be allowed, and older children may hold pieces of cracked ice in the mouth.

Vomiting, so common in the beginning of scarlet fever, seldom persists after the first few hours, and, like convulsions, has a very different interpretation during the period of invasion, than when it occurs at a later date. Bismuth, or small repeated doses of calomel, about one-tenth grain, given every hour, until the bowels move freely, is usually all that is required. The diet should be curtailed in amount, or discontinued altogether, as long as this symptom lasts. Convulsions occurring at a late period of the disease are usually uremic. At the beginning they are usually due to the high temperature and toxic action of the scarlatina infection. They are best controlled by the use of bromides, which must be given in comparatively large doses, or by chloral hydrate which is best given per os, dissolved in milk, and by those measures already described for reducing the temperature. It is well in the beginning of every case of scarlet fever to secure a free evacuation of the bowels at once, and by so doing we remove a possible source of irritation, which frequently acts as a causative factor in producing convulsions.

That the heart is especially affected by the scarlatina infection is shown by the fact that the pulse is always rapid in proportion to the temperature, and in all severe cases measures to sustain it are called for. This is especially true in cases complicated with suppuration of the glands of the neck, otitis media and gangrenous processes of the throat.

An irregular rapid pulse with feeble first sound is always an indicator for stimulation, no matter what the period of the disease. Alcoholic stimulants, digitalis, stropthanthus, ether, camphor and ammonia are most useful. The quantity to be given is governed only by their effect. Alcohol is best given in the form of brandy or whiskey, diluted with hot or cold water. Digitalis I prefer to give as the fluid extract, in 1 m. doses to a child of five years, repeated every three or four hours. Strychnine is best given hypodermically $\frac{1}{250}$ to $\frac{1}{150}$ of a grain and camphor, which is one of the best cardiac tonics, is also given hypodermically in doses of ¼ to ½ gr. to a child of five years.

The throat in mild cases will require little or no treatment. Ice held in the mouth will relieve the heat and dryness, while the external application of camphorated oil, and warm compresses are useful. In those cases characterized by an intense angina, pseudo or true diphtheria, with marked cervical adenitis, we have one of the serious complications to deal with. Topical applications to the throat are useful if they can be used without a great resistance on the part of the patient, but when every application means a struggle, their frequent repetition should not be practiced. To give a list of drugs for local treatment of the throat would include nearly every astringent and local sedative in the pharmacopeia. Every physician has his favorite remedies, and as cleansing of the throat of its secretions is our object, there is little choice. Personally I have found hydrogen peroxide, carbolic acid and boracic acid useful. The first I use as a swab for

the throat, and spray in the nose. Carbolic acid is used as a spray in combination with tannic acid, glycerine and water, and boracic acid as a gargle or swab.

The adenitis is best controlled by the use of the ice bag or cold pack. Suppuration is less likely to occur than when heat is used, while pain and tenderness is relieved equally as well.

When suppuration seems imminent, warm antiseptic compresses should be used and free incisions made, with irrigation as soon as pus becomes localized. Enlarged glands which show little tendency to change may often be resolved by the use of an ointment containing ichthyol, mercury and belladonna.

The diphtheritic processes in the throat of the scarlet fever patient calls for an accurate differential diagnosis before the line of treatment to be followed is decided upon. The exudate occurring during the height of the scarlet fever process is usually of streptococcic origin, while at a later period it is more often true diphtheria due to Klebs-Loefler bacillus. In the former instance those measures already described for the treatment of the angina will be found useful, while in the latter antitoxin is our main reliance. Without the aid of the microscope the differential diagnosis is often difficult, sometimes impossible, and the old adage, "When in doubt, play trumps," is most applicable.

When the diphtheritic membrane involves the larynx the use of the calomel fumigation is often of marked benefit. Ten to fifteen grains of calomel should be burned under an improvised tent or canopy, and repeated every two, three or four hours, as the condition may warrant. Intubation is of course indicated.

When stenosis is not relieved by these measures, after a careful differential diagnosis, and the use of antitoxin early in the case of true diphtheria, or the other measures, if the membrane is a pseudo-diphtheria, are usually all that will be required.

Complications of the ear are troublesome and should receive prompt attention. We seldom have a simple catarrhal inflammation, but an inflection of the tympanic cavity due to streptococcus. As soon as an otitis is suspected or complained of, a careful examination should be made. The ear speculum with strong reflected light should be used, and if there is no bulging of the drum, we may try palliative measures. A blister or leech may be applied in front of the tragus, or hot water instilled into the external meatus and hot dry external applications used. Warm oils, melted vaseline or irritants, such as chloroform or carbolic acid, should not be poured into the ear.

If these measures are not successful in controlling pain and checking the inflammation, there is but one rational treatment; that is, paracentesis of the tympanum with drainage. This is a very simple operation. The point of incision should be that portion of the drum which is most bulging, and the opening must be an incision, not a mere puncture. Carry the incision well downward to the floor of the meatus. A free flow of pus follows with immediate relief of symptoms. Cleansing with a boracic acid or bichlorid solution is all the after-treatment required in simple cases.

Until recently I had a dread of this simple procedure, but after performing it and noting its excellent results, I should not hesitate to do it in every case not relieved by more simple measures.

Treatment of the post-scarlatina nephritis is that of an acute nephritis occurring independently of this disease, and to enter into a detailed treatment is to involve us in a discussion of acute nephritis in general.

During the height of the scarlet process, the urine in perhaps the majority of all but the mildest eases, will show traces of albumen, blood corpuscles and a few casts, but this involvement of the kidneys is not productive of special symptoms, and other than warning us of the presence of renal irritation, may be ignored.

The serious kidney lesions occur after the substance of the active fever process. It may follow the mildest as well as the more severe cases, and may prove a more serious condition than was the primary disease.

The prophylaxis of this complication should receive careful attention. Every convalescent case should be warned against exposure in cold and damp, and the diet should be light and largely non-nitrogenous. Water should be used freely, the bowels kept loose with frequent warm baths to promote activity of the skin. These measures, no matter how carefully adhered to, are often of no avail, and the frequency with which nephritis occurs in spite of a most careful regime has lead many observers to place but little confidence in preventive measures.

With the first symptoms of kidney involvement the patient should be confined to bed, an absolute milk diet instituted, with free evacuation of the bowels induced preferably by a concentrated saline.

The urine may be increased and rendered less irritating by the use of the alkaline or small doses of acetate or citrate of potash may be given. In mild cases this is all the treatment required.

Cases characterized with marked dropsy, scanty urine and uremic symptoms require more active measures. Counter irritation over the kidneys maintained by the use of mustard or dry cups followed by poultices, depletion by the production of copious water stools best induced by the Rochelle or Epsom salt, diaphoreses from the use of hot wet pack, and the administration of the milder diuretics such as acetate and citrate of potash, infusion of digitalis and especially diuretin, will be indicated.

Pilocarpin is recommended for its diaphoretic action, but it is a marked depressant and should not be used as a routine treatment. Recently its use as an inunction into the skin (5 cent. grain pilocarpine to 100 grain ol. olivea) has been favorably commended.

Uremic convulsions will be best controlled by the hypodermic use of morphia and the rectal administration of chloral and bromides and in cases with full bounding pulse venesection should be tried. From two to six ounces of blood may be taken, according to the urgency of the symptoms (Holt). The rectal injection of normal salt solution is also useful in inducing a free flow of urine and aiding the elimination of toxic substances.

Convalescence requires iron, bitters and above all a gradual return to the customary habits and diet of the patient.

The Symptoms and Diagnosis of Scarlatina.

By Henry Garnsey Ohls, M. D.,

ODELL, ILLINOIS.

Read before the Livingston County Medical Society.

THE symptoms of scarlet fever vary with the severity of the infection and also with the age and general condition of the system of the patient. Thus some epidemics are severe, the mortality being as high as 40 per cent, while the average is only from 12 to 14 per cent. In two recent epidemics in the New York Infant Asylum 29 patients under 1 year old had a mortality of 55 per cent; 37 between 1 and 2 years, 22 per cent; 28 between 2 and 3 years, 7 per cent; and 23 over 3 years, no deaths. It may be safely assumed that the mortality varied in direct proportion to the severity of the symptoms and the complications.

Invasion.—The attack is usually ushered in by vomiting, chills, a rapid rise of temperature and sore throat. The vomiting is in some cases repeated several times, it is often projectile and without nausea. The temperature in severe cases rises to 104° or 105° F.; in mild cases it may not rise above 101°. The pulse is very rapid, even out of proportion to the fever. The face is flushed and the eyes brilliant. The child may not complain of sore throat, but upon examination the fauces are generally found congested and the hard palate is often covered with small red points. A membranous deposit is often seen covering the tonsils and fauces more or less, but it is not usually seen before the 3d or 4th day of the fever. The tongue, except at the edges, is nearly covered with a thick white or yellowish coat through which the enlarged papillæ project, red and prominent. After a few days the coating is cast off and the whole tongue becomes very red and the papillæ remain prominent for 6 or 8 days. In severe cases the tongue is very dry and brown. Diarrhea is not uncommon, especially in summer. The nervous system is more or less disturbed; in young children and infants convulsions may be the first sign of the infection. Later the nervous symptoms, such as delirium and general prostration, depend upon the height of the fever and complications, such as nephritis. Blood count shows marked leucocytosis during the height of the eruption.

Eruption.—The eruption generally appears in from 12 to 36 hours after the first symptoms of the invasion; exceptionally as late as the 3d or 4th day. In 75 per cent the rash lasts from 3 to 7 days; in 5 per cent, 2 days or less; in 15 per cent from 8 to 11 days. In a very small number it lasts over 11 days and in exceptional cases the rash disappears and recurs. The typical rash begins in the form of minute red points on the upper part of the breast and neck, rapidly spreading until the surface involved is a bright even red color. The body, face and limbs may be entirely covered within a few hours, or the rash may extend slowly, only covering the surface after 2 or 3 days, or it may be limited to certain areas throughout its course. Variations in the rash are frequent and puzzling. It may be so faint as to escape observation in mild cases; or the rapid disappearance of a bright

eruption may be due to heart failure. It is usually modified by intercurrent intestinal disturbances. In malignant cases with severe throat symptoms the rash may be poorly developed. The eruption may be in large discrete patches or macular, as in measles. In severe cases it may be a dark purple color. It is rarely hemorrhagic. On the neck or chest there is occasionally a fine vesicular eruption. Accompanying a well marked eruption there is usually burning and intense itching of the surface, and, in severe cases, swelling, especially of the face and hands. The constitutional symptoms increase with the development of the rash, and usually diminish gradually as the rash fades.

Desquamation.—Soon after the rash fades desquamation of the epidermis begins at the spot where the rash first appeared. From the face and body the superficial layers of epidermis come off in fine scales or in small patches. Where the skin is thick, as on the palmar surface of the hands and feet, the epidermis often separates in large patches which in exceptional cases may even assume the form of casts of the fingers and toes.

The fingers begin to peel at the tips on which the new epidermis is pink and contrasts strongly with the opaque gray color and loosened edges of the remaining old layers. The process is complete as to the trunk in from 1 to 3 weeks, but exfoliation from the hands and feet may continue from 3 to 6 weeks or even 8 weeks, if not hastened by treatment.

Mild Cases.—The symptoms of mild cases have perhaps been sufficiently indicated above, but to recapitulate: The symptoms may be so mild as to be overlooked until desquamation occurs. Usually there is an abrupt invasion with vomiting and a temperature from 101° to 103°. The rash may be slight, appearing within 24 hours and fading within 3 or 4 days. The whole surface is usually covered but the face may be pallid, especially around the mouth. The highest temperature coincides with the full eruption and is seen during the first 36 hours of the disease. It subsides by lysis with evening remissions and morning exacerbations, reaching normal between the 4th and 7th days. Desquamation may be overlooked on the face and trunk, but can be found on the palms and soles at the end of the week. Otitis and nephritis rarely occur in mild cases, but their possible occurrence should not be overlooked. The throat and constitutional symptoms are mild in this form of the disease.

Severe Cases.—Severe cases are characterized by a rapid invasion, by a rash that covers the whole surface within a few hours, by a temperature of 104° or over. In cases that recover the fever may reach the high point several days in succession; then it abates about 1° daily until near normal, after which there may be a moderate oscillation for a week or so longer. The course of the fever is greatly modified by the complications. The mucous membrane of the mouth and fauces is intensely congested, and on the 3d or 4th day false membranes form on the tonsils and may involve the soft palate, the nasopharynx, the nose and even the Eustachian tubes and middle ears.

In the absence of diphtheria the false membrane rarely involves the larynx. The membranes contain streptococci and a diplococcus called by by W. J. Class, d. scarlatinæ. Gradwohl and others confirm his state-

ment that it is found in all cases of scarlatina. There may be superficial ulcers in the mouth or fauces. The tongue is thickly coated and sordes collect on the teeth. The cervical glands swell, sometimes to great size, and the tonsils often become permanently hypertrophied. The catarrhal discharge from the nose and mouth is excessive and more or less offensive. The pulse, at first full and bounding, later becomes weak and irregular. There is delirium during the hight of the fever or coma develops later. Sometimes the apathetic condition resembles typhoid. Desquamation after severe cases is occasionally accompanied or followed by loss of the hair and nails. As the complications are the subject of another paper I will only mention the common occurrence of albuminuria, dropsy, and the signs of sepsis associated with exceptionally severe throat symptoms, such as gangrenous sloughing of the mucous membrane and connective tissue. Another form of sepsis is the so-called malignant or cerebral case. In this the onset is sudden and violent with intense headache, the rash irregular or absent, the fever rising to 104° or over within a few hours, and higher daily till death, which may occur at any time after the second day. Scarlatina is liable to be very severe or fatal in children who undergo surgical operations, however slight, shortly before infection or during the period of invasion. The surgical wound is prone to become gangrenous under these circumstances.

Diagnosis.—When cases are seen in the midst of an ordinary epidemic, the diagnosis usually offers no difficulty. Before the eruption appears the attack cannot always be distinguished from tonsillitis, though the strawberry tongue points to scarlatina.

This fact was brought forcibly to my mind in one of my earliest cases. The patient was a young daughter of Ham with a complexion like good stove polish. The condition of the skin certainly did not throw any *light* on the diagnosis. But the temperature, and especially the bright red papillæ of the tongue projecting through the coating, was to my mind the very picture of scarlatina, which was proven to be authentic by subsequent developments. Cases that are very mild throughout are not easy to diagnose, but desquamation or the development of other typical cases by infection, may throw a sinister light on an apparently trivial illness. Rapidly fatal cases without eruption may seem like special dispensations of Providence till perchance other cases with the usual eruption clear up the diagnosis. Diphtheria cannot always be distinguished from scarlatina at the outset. But the temperature is lower in diphtheria, and the membrane is tougher and more adherent, leaving a bleeding surface when detached. The bacteriologic examination of the false membrane and secretions from the fauces will assist in the diagnosis of doubtful cases, and should always be used when available. Erythema and roseola occurring in numerous small circular spots on the trunk or extremities may be caused by dental or gastrointestinal irritation. Such spots and erythematous syphilides also bear some resemblance to the scarlatinal rash, but the history of the case and the absence of fever, or the comparatively low temperature will not permit an error in diagnosis. A red rash like that of scarlatina may precede the papular eruption of variola. It may be noticed on the pubic, the

inguinal and lateral thoracic regions. The intense headache of variola and the "shotty" feel of the papular eruption ought to clear up the diagnosis within twenty-four hours. An erythematous rash may precede the characteristic rose spots of typhoid fever, and it has been observed in influenza also.

A similar rash in blotches everywhere except on the face has been noted after tracheotomy performed for laryngeal diphtheria. But it runs a rapid course and is not followed by desquamation, a statement that applies as well to all the rashes that simulate scarlatina, except possibly that of erysipelas. The latter can be distinguished by its limited extent, by the connective tissue edema and the fact that desquamation is limited to the surface involved. Belladona, quinin and other drugs sometimes cause a scarlatinoid rash, but they should offer no difficulty in diagnosis.

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Pitting of Small-Pox.—To prevent pitting in smallpox keep the body covered with the following formula is offered by the *Med. Summary:*

℞ Acid salicylate ..... gr. xij
Starch ..... ℥ ij
Vaseline ..... ℥ v

M. ft. ungt.

This is both emollient and antiseptic.

Salicylic Acid—Vasogen is even a nicer means to the same end.

Treatment of Carbuncles.—Wm. Wormley, *New York Med. Times*, recommends the use of tonics such as iron, arsenic and quinin. The following prescriptions are employed by him very frequently:

℞ Potassii iodidi ..... ℥ss
Ferri pyrophophatis ..... ℥i
Syrupi .....
Aquæ .....aa ℥ii

M. Sig.: One teaspoonful diluted in water after meals.

Gross, according to his statement, recommends the following as a cover for the carbuncle, first painting it with tincture of iodin:

℞ Olei terebinthinæ .....
Olei olivæ .....
Tinct. oppii .....aa ℥ss

M. Sig.: Apply locally

The foregoing is r egarded as an antiseptic, destroying the cocci if they are not too firmly estab lished in their location. The following is sometimes used:

℞ Tinct. arnicæ flor ..... ℥i
Acidi tanici .....
Pul acaciæ .....aa ℥ss

M. Sig.: Paint over the carbuncle every fifteen minutes until a thick coat is formed.—*J. A. M. A.*

Fortnightly's Post-Graduate Course

In this department we will present a series of Practical Papers for the General Practitioner, written expressly for this magazine by the leading Medical Writers of the Twentieth Century.

Diseases of the Stomach.

By J. M. G. Carter, M. A., M. D., Sc. D., Ph. D.,

WAUKEGAN, ILL.,

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[CONTINUED FROM PAGE 805.]

CHAPTER XIV.—ORGANIC DISEASES OF THE STOMACH.— DEGENERATIONS GASTRIC ULCER.

Synonyms.—Round Ulcer of the Stomach, Peptic Ulcer, Ulcer of the Stomach.

Definition.—It consists in a solution of continuity of the mucous membrane and often of the deeper layer of the parietes of the stomach, with more or less destruction of tissue, and may be considered a degeneration. It is usually round or oval in form, but sometimes ragged in outline. The edges are generally clean-cut, especially when recent, and often look as if the ulcer had been "punched out."

Etiology.—Ulcer may occur at any age, perhaps most frequently between 20 and 30 years, but with considerable uniformity from 20 to 60. It very often occurs in younger persons. Statistics seem to indicate that females are more likely to suffer with ulcer than males. It is found most frequently in males between 30 and 40; in females between 20 and 30. DaCosta and Welch say that Americans are less susceptible to ulcer than the English and Germans. On account of the depraved conditions of life and nutrition, the anxiety, depression, exposure, lack of fresh air and damp dwellings of the poor, they suffer more from ulcer than the rich and well-to do. Certain occupations, as cooking, weaving, tailoring and shoemaking, seem to predispose to this disease.

Mechanical injury of the mucous membrane of the stomach, chemical injury from poisons, and similar traumatisms act as causes of ulcer. Certain bacilli, especially the bacillus tuberculosis may have a similar action, but may cause obstruction of a vessel and ulcer result from disturbance of the local circulation. Such cases, however, if occurring in a patient who has tuberculosis can not be considered in the present connection. A very important cause of simple ulcer is anemia, especially the form termed chlorosis. The uric acid diathesis is a predisposing cause (Haig).

Certain diseases of the heart and blood-vessels, as atheroma, amyloid degeneration and endarteritis obliterans, may lead to peptic ulcer. Ulcer

sometimes results from chronic passive congestion of the stomach in cases of cirrhosis of the liver. Persistent vomiting, malaria, parasites—as trichina spiralis—diabetes mellitus, abuse of alcohol and extensive burns of the skin may all give rise to ulcer of the stomach.

Pathogenesis.—A study of the pathology of gastric ulcer requires that we recall the causes. In corrosive poisoning the origin is readily understood, the part is suddenly destroyed. In the case of injury of less degree of severity and in irritation a congestion is produced and the ulcer must result from excessive desquamation of the epithelium. In obstruction of blood-vessels—embolism—the nutrition of the part is destroyed and the succeeding degeneration leaves an ulcer. If there is a tendency for the vessel or vessels to degenerate centrally, or if a succession of embolisms occur, an eroding or enlarging ulcer results and healing is prevented or delayed.

This result will follow whether the obstruction be in the smallest arterial twigs running up from the submucosa between the glands of the mucous membrane, or whether it be from atheromatous, amyloid or aneurismal degeneration of the vascular walls. After a vessel has been plugged, it is possible that the action of the gastric juice on the part deprived of nutrition may hasten the formation of an ulcer; especially should we expect this in cases of hypersecretion of HCl, which may dissolve the necrosed tissues.

Other cases, however, especially in the young, cannot be explained in this manner. Here we may assume that follicular hemorrhages and hemorrhagic erosions act as the cause of the ulcer, just as hemorrhagic infarcts do on a larger scale, by interfering with the nutrition of certain areas of the mucous membrane. In such cases the ducts of the glands are packed with blood-cells to the fundus. Many punctured-appearing follicular hemorrhagic spots varying from the size of a millet seed to a pea may occur, and the loosened mucous membrane frequently suffers erosion. Large ulcers may thus originate especially near the pylorus. In the first instance this erosion is merely a necrosis of tissue, but eventually the character of the pathological change is altered, a proliferation of young cellular elements occurs, spreads to the deeper tissues continually throwing more elements to the surface, and a true ulcer is formed. It is seen from this that an ulcer does not enlarge actively, but its growth is the result of the necrosis. In these cases the active process is the stage of proliferation with formation of cicatricial tissue and healing.

In older ulcers the margins are thickened by a reactive inflammation at the periphery forming a callous outline. In the fundus of the glands thus obstructed—that is, those glands which have been packed with blood-cells—the epithelium and peptic cells undergo marked changes. In place of peptic cells cuboidal or cylindrical epithelium is found. The peptic cells are shrunken and separated from one another and the membrana propria, their contents are broken down and assume almost the appearance of hyaline degeneration. Single ducts undergo cystic degeneration. A rich vascular network with an abundant small-celled infiltration makes the submucosa decidedly broader and thicker. On account of these central necrotic and peripheral active processes the base of the ulcer may become firmly

attached to the underlying tissue and the mucous membrane at the margin become inverted into the ulcer. In the same manner the ducts of adjacent glands may become so bent that their mouths are turned towards the ulcer and thus pour their secretion, if their is any, directly into it (Witosowski).

Reference has already been made to the hypersecretion of HCl in gastric ulcer. Korozynski and Jaworski have found that in the majority of cases this occurs and that the acidity increases with the degree of severity of subjective and objective symptoms, reaching its height at the time of hemorrhage. The secretion is independent of food-taking and returns to normal with recovery. They conclude that in chronic gastric inflammation both central and parietal cells are increased in number, and that there is a consequent increase of both acids and ferments. The central cells being less resistant succumb beneath this abnormal activity, but the parietal cells survive and continue to secrete HCl from the chlorides of the blood.

One other possible interference with the circulation is spasm of the muscular coats of the stomach in vomiting and gastralgia with compression of the veins. It is possible also that micro-organisms may cause ulcer by obstructing minute vessels, thus interfering with nutrition and inducing necrosis of tissue.

Sometimes there is no tendency to healing, but the erosion steadily progresses until the coats of the stomach are perforated.

Pathology.—Ulcer of the stomach is usually single; often two or three may occur; rarely larger numbers are found. Berthold mentions a case with 34, and others (Lange) have reported even large numbers. Brinton states that multiple ulcers occur in about one-fifth of the cases. The usual position is upon the posterior wall of the pyloric portion of the stomach on or near the lesser curvature, those locations most easily affected by the gastric juice. The cardiac extremity is least frequently involved. The female sex seems to be most frequently affected by this form, statistics showing that nearly twice as many cases occur in women as in men.

The size of the ulcer varies. Follicular ulceration or erosion may occur in the stomach, especially after burns, where the ulcer varies from the size of a millet seed to that of a pea. They are common accompaniments of dilated stomach, and they may be the cause of fatal hemorrhage. Ordinary ulcers often attain a large size, sometimes two inches in length. Ulcers vary then in size usually from that of a millet seed or pin-head to one and a half or two inches in diameter; but larger ulcers than this have been reported by Cruveilhier and others. The average size is about that of the quarter dollar, one inch in diameter (0.22). If small ulcers coalesce a ragged outline may be seen instead of the usual clean-cut appearance. The loss of substance is generally greater in the mucous membrane than in the deeper tissues, hence the form of the ulcer is often crater-like or funnel-shaped. The various layers of the gastric walls can often be distinguished in the ulcer by the varying extent to which they are eroded. The walls of the ulcer may be vertical. Virchow says one side may be vertical and the other terrace-like. Swelling and blood-cell infiltration often occurs so that the margins are indurated; especially is this true in old ulcers. The direction of the axis of the ulcer, according to Orth, may not be per-

pendicular to the mucous surface, but may be obliquely directed like the gastric arteries. This gives color to the theory that gastric ulcer may be caused by embolism in local arteries. This view has been demonstrated experimentally upon animals.

Panam and Cohnheim have shown that emboli driven into the gastric arteries of the dog produced characteristic ulcers in the mucosa, and the funnel-like manner in which the coats of the stomach are successively destroyed would indicate, as pointed out by Virchow, that the ulcer corresponds to the expanse of an artery supplying the mucous membrane.

The base of the ulcer is formed by one of the layers of the gastric parietes unless perforation has occurred, in which case the base may be formed by the liver, the pancreas or some other organ. Opposite the ulcer the serous coat usually shows a patch of fibrinous lymph which forms the attachment to adjacent tissues in cases where adhesions occur. This work of nature frequently prevents the escape of the ingesta into the abdominal cavity, although the entire gastric wall may have been pierced by the ulcer. In recent ulcers the base may be smooth and firm, soft, irregular, hemorrhagic, devoid of granulations and free from pus. In old ulcers, however, the base is often anemic, even indurated; the edges hard and elevated from the development of new connective tissue. The tissues in immediate proximity to recent ulcers contain granular detritus consisting largely of remnants of connective tissue fibres, disintegrated red blood-corpuscles and fatty granules. This granular matter often compresses the tubules and separates them from one another. Around the margins of this granular detritus is occasionally found a band of tissue infiltrated with lymphoid cells. The walls of the blood vessels in the newly developed connective tissue are thickened by endarteritis or atheroma. Some of the blood vessels may contain thrombi. The new tissue may develop in the mucous membrane around the ulcer for some distance and compress or obliterate the gastric tubules and cause inflammation and atrophy of the nerve-filaments. The evidences of hemorrhages may be seen in the eroded blood vessels. Serious hemorrhages occur in about one-third of the cases and generally result from erosion of the splenic, pyloric, coronary, gastro-epiploic or gastro-duodenalis vessels; but a dangerous or fatal hemorrhage may occur from erosion of the hepatic, pancreatic and mesenteric vessels, or from varicose gastric veins.

Ulcers of the stomach often heal spontaneously, becoming permanently united to an adjacent organ as the liver or the pancreas of some other neighboring tissue. The floor is covered by cicatricial tissue, and usually assumes a stellate shape, and the contraction of which often produces deformities of the viscus or obstruction of the pylorus. If the former occurs the organ may be divided into two parts of unequal capacity, if the latter dilatation of the stomach results.

The method of healing resembles that of a typhoid ulcer. The edges are bound down to the cicatricial floor, but the mucosa is never repaired. The epithelium, according to Hamilton, may never cover the floor, and if it should it produces a very thin layer.

The time required for healing probably varies. In my practice I have found that when recovery occurs the cure sometimes seems to be accom-

plished in three or four weeks, while other cases require a greater time. Cohnheim found that when ulcers were produced experimentally in animals complete healing occurred in three weeks.

The cicatrices, contractions and distortions following ulcers are sources of great annoyance in after life. Dyspepsia is common, and dilatation may result with its attending symptoms.

Perforation may occur. The liability to this accident diminishes with age, occurs more frequently in the female than the male, and is more frequently met with between the ages of fourteen and thirty than at any other period. If the perforation occurs suddenly and, as is usual, the ulcer is situated on the anterior wall the stomach contents may escape into the peritoneal cavity producing a rapidly fatal peritonitis. If the perforation takes place slowly, the fibrinous exudate in front of the ulcer, which has already been mentioned, causes adhesions with neighboring tissues and a new floor for the ulcer is formed. It sometimes happens that the ulceration may continue, and thus involve adjacent organs, more especially the liver. The ulcer sometimes opens into a cavity—the pleura, the mediastinum, the pericardium, the lung, the left bronchus, the gall-bladder, the large or small intestine, etc.

Symptomatology.—The clinical history of ulcer of the stomach presents marked differences, according to the severity of the lesion, and probably the temperament of the patient. In many instances it seems to be latent throughout the entire course, at least attention is not drawn to any characteristic symptom during life, and the cicatrix seen at the post-mortem is the only evidence that the stomach has been affected by this lesion. In cases which come under the care of the physician, the symptoms vary from slight disturbances to such excruciating suffering and alarming hemorrhages that the best directed efforts cannot avail to save the life of the patient.

The classical symptoms of ulcer of the stomach are pain, vomiting, hemorrhage. They vary in their relative importance as they do in severity in individual cases. The symptoms first manifested in an ordinary case of ulcer may be so indefinite as to be mistaken for some simple digestive disturbance. Vague sensations of fulness, tension or pressure, transient dull or drawing pains, and fitful or variable appetite are experienced. In ulcer, however, the tongue is clean, or at any rate usually only slightly coated at the base. The curtailed diet which the patient has voluntarily imposed is not always due to diminished appetite, but frequently is a precaution against pain which has observed to be more marked after a full meal. This restriction of diet soon causes emaciation, anemia and consequent loss of strength, together with functional disturbances of digestion.

The epigastric pain is cramp-like and gradually becomes localized to a definite spot corresponding to the seat of the ulcer. The spot is usually in the lower half of the stomach. It must not be understood that the pain is localized with exactness, but it is generally referred to the infrasternal depression. Tenderness over the epigastrium is common, especially when subjected to pressure, hence lacing and tight trouser band cannot be borne.

The pain may be continuous or intermittent, dull and gnawing, boring or lancinating, often radiating to the back or to neighboring organs. Dif-

fuse pain may occur in other diseases. The pain which is characteristic of ulcer is circumscribed, boring or gnawing, epigastric or dorsal, or both, usually appearing soon after taking food and disappearing when the food has been removed by vomiting or passing into the duodenum. If the pain occurs at once upon taking food, the location of the ulcer may be in the lower part of the esophagus at the cardia. If the pain does not appear for an hour and a half or two hours, there is reason to suspect that the ulcer is below the pylorus in the duodenum (Hemmeter). Often patients complain of "stitches in the side." A change of position will sometimes relieve the patient. Lying on the left side increases the pain (Leube), while lying quietly on the back relieves it. This is suggestive of mechanical irritation by the food as the cause of the pain. The irritation is produced also by the presence of gases and acids, the result of digestion and fermentation. Stimulating articles of food cause greater pain, bland food less. That fermentation acids often cause pain is shown by the relief which the administration of alkalies will sometimes afford.

Vomiting is a cardinal symptom of gastric ulcer, and usually comes on soon after meals. It may occur several times a day, or only once or twice a week. The character of the ejecta varies. Soon after a meal it consists mainly of articles of food, with little or no digestive change. It may be mixed with blood and mucus. At other times there may be a mixture of fermentation fungi, bacteria, sarcinæ, remnants of food, mucus, blood, bile, etc. The emesis is generally preceded by pain and is followed by relief or alleviation of the discomfort. Occasionally vomiting occurs without premonitory discomfort, and, as already indicated, does not depend entirely upon taking food. It is sometimes due to accompanying gastritis. It may persist after cicatrization has taken place.

Hemorrhage or hematemesis occurs in 25 per cent or more of all cases. Brinton gives 29 per cent, Gerhardt 47 per cent. Many hemorrhages are so slight that vomiting is not caused, and if the blood is digested no change is seen in the color of the stools. Large hemorrhages which are not followed by emesis cause blood-stained, pigmented or tarry alvine evacuations. If hematemesis occurs after a moderate gastrorrhagia the blood is generally acid, coagulated, and has a tarry or coffee grounds appearance, due to the action of the gastric juice upon the red corpuscles and proteids of the blood. If the hemorrhage is very profuse, the gastric juice may not affect the blood, the reaction may be alkaline and the color arterial. The blood thrown up in the vomited matters and that evacuated by the bowels may occur in such small quantity that it can be detected only by chemical, microscopic or spectroscopic examination. It is only by such means that the cause of some obscure anemias is discovered. The quantity of blood may vary from a mere trace to several pints.

Fatal collapse occurs because of profuse hemorrhage, in about 4 per cent of all cases. After hematemesis melaena may persist for several days. Waxy pallor of the skin, small rapid pulse, mild febrile movements, anorexia, ringing in the ears, vertigo, mild delirium, and loss of conscious-

ness may occur. We frequently meet with subsultus tendinum and muscular spasm in the extremities. Patients usually rally rather rapidly after hematemesis. Still the effect upon the mind of the patient may retard the recovery. There is often fear of a return of the hemorrhage, and we know that the fear is well founded. Another may occur in a few hours, in weeks or months, sometimes not for years after, and at a time when the patient least expects it. Not unfrequently there is a premonition of the threatening hemorrhage, in the form of flashes of heat, epigastric pulsation, fulness in the stomach and great restlessness. It sometimes happens that the first indication of gastric ulcer is an alarming hematemesis, resulting from the erosion of a large vessel. Here, as under other circumstances, death may result suddenly.

Perforation is the most alarming complication of ulcer when it occurs. It takes place into the peritoneal cavity in six or seven per cent of all cases, and is then usually rapidly fatal, either from shock or acute peritonitis. If the perforation is small a localized peritonitis may supervene followed by adhesions to and abscesses in neighboring organs and tissues, the fatal termination being delayed. The accumulation of pus in these organs and cavities may produce inflammations and usually causes death by exhaustion. If the perforation occurs into the colon or intestines fecal matter may be vomited, or lienteric diarrhea may result. In fortunate cases adhesions take place with adjacent organs or tissues, and death is prevented at least for a time. When such a result follows the patient experiences various symptoms of dyspepsia, and may suffer from localized pains or sensations of distress. As a rule, however, the perforation occurs suddenly and without warning. It may follow a fit of coughing, lifting, straining at stool, leaning over a table, riding, a blow on the stomach or eating a hearty meal. The symptoms are characteristic; suddenly severe pain is felt in the abdomen and collapse may result. Sometimes distention of the abdomen, severe pain on the slightest touch, vomiting, hiccough, small rapid pulse and pinched features—the facies Hippocratica—indicate the fatal accident. Perfect recovery after perforation is exceedingly rare.

Syphilis and tuberculosis when the cause of gastric ulcer present constitutional symptoms which will aid in the diagnosis.

Diagnosis.—It should be remembered that the characteristic symptoms of gastric ulcer are *pain*, with epigastric tenderness, usually increased after meals; *vomiting*, usually preceded by pain; *hematemesis*. If all these symptoms are associated in any case, there may be no mistake in diagnosis; but if only one or two should be present the case may be mistaken for other diseases. For instance, pain may occur in functional dyspepsia when associated with gastralgia or gastrodynia, in chronic gastritis rarely and in cancer. It may be mistaken for the pain of gall-stones or renal calculus, intestinal neuralgia, etc. If the pain is due to gastralgia it will not occur regularly after meals, it may arise from nervous disturbance or annoyance, or it may come on without any exciting cause. It is often relieved, however, by vomiting, but the vomited matter has not the characteristics of that in ulcer. The pain in gastralgia is relieved by pressure, in ulcer increased. The age of the patient may be of value in determining

whether the pain is due to ulcer or to gastrodynia. Ulcer is most frequent under thirty, gastrodynia or gastralgia above that age. It must be remembered that gastralgia and ulcer may exist together. The tenderness over the epigastrium in ulcer is not common in functional dyspepsia with gastralgia. All the symptoms must be weighed in obscure cases. If this is done the character of the pain may be sufficient to suggest a diagnosis. Under such circumstances the localization in the epigastrium of a boring, gnawing, drawing, lanclnating pain which radiates to the back or adjacent organs, *without tumor*, occurring chiefly or only after meals and relieved by vomiting, may be considered as indicating ulcer of the stomach, provided the vomited matter shows no cancer cells.

The pain of gall-stones may frequently cause a mistake in diagnosis; but this would not usually be allowed to occur after the first visit. A study of the history of the case, the sudden cesation of pain in gall-stones, examination for discoloration of the skin and conjunctive with a careful examination of the stools for calculus should prevent error. If care be taken the pain of renal calculus should not be mistaken for that of ulcer of the stomach. Rheumatic and gouty pains of stomach and intestine must be differentiated.

Neuralgic pains in the intestines are not relieved by vomiting nor increased by eating. Only in those cases where such pains occur in the course of subacute or chronic gastritis should they cause hesitation in diagnosis. Pain and all other symptoms are less severe in chronic gastritis. The pain of cancer is continuous, is not relieved by vomiting, nor especially increased by eating. The vomited matter contains cancer cells and broken-down tissue, and HCl is usually absent, while in ulcer it is generally increased, and a chemical examination should be made in obscure cases. The vomiting of ulcer is not especially characteristic, except that it is usually preceded by pain, which is relieved by that act. Vomiting may relieve the pain of gastralgia, but other symptoms should enable the physician to distinguish between them. The vomiting of cancer, as already stated, does not relieve the pain and brings up materials which are pathognomonic—cancer cells, detritus, etc.

Epigastric and dorsal tender spots have been described by Cruveilhier and Hemmeter, which sometimes serve as diagnostic points. The anterior point or area is at or near the epigastrium and the dorsal point (in about one-third of the cases) usually is found on the left side of the spinal column at the tenth to the twelfth dorsal vertebræ.

Hematemesis is the most important symptom in diagnosis. A profuse hemorrhage from the stomach in a young person is always suggestive of ulcer. Even in large hemorrhages the blood is sometimes discharged by stool. In the absence of hemorrhage the diagnosis is nearly always uncertain, hence the necessity for examining the alvine evacuations if hematemesis has not occurred. It is necessay to distinguish between hematemesis and hemoptysis. In the latter the blood is generally brighter and the admixture of air presents a frothy appearance. Hemoptysis usually occurs with a sensation of tickling in the throat; irritation, cough, or a sensation of warmth in the chest, while hematemesis is usually preceded by some sensation in the stomach, nausea and tendency to vomit. It must be re-

membered that hemorrhages from the stomach occur vicariously in some menstrual disorders, they occur also in purpura hemorrhagica, scurvy, hemophilia, miliary aneurisms, progressive pernicious anemia, malaria, yellow-fever and the exanthematous fevers. But in all these maladies a careful study of the case will enable one to make a correct diagnosis.

The differential diagnosis will be facilitated by referring to the following table modified from Einhorn :

Condition or Symptom.	Gastric Ulcer	Nervous Gastralgia	Hyperchlorhydria.	Cancer.
Age	Rare in youth, frequency increasing progressively from puberty to very old age.	Most frequent between the ages 18 and 35.	Rare in youth; occurs in all other life periods.	Occurs in middle age and advanced life chiefly.
Sex	More frequent in women, ratio 2 to 1.	More frequent in women.	More frequent in men.	Occurs in two sexes about equally.
Epigastric pain	Often intense. Appears soon after meals; increased by pressure, relieved by vomiting or at end of digestion.	Comes on without regularity, not dependent upon meals, is relieved by pressure.	Comes on two or three hours after eating, but disappears again by taking more food —meat eggs, etc., or an alkali.	Pain steady, less intense, not relieved or specially increased by eating or vomiting.
Appetite	Not affected, but patient fears to eat on account of pain.	Variable.	Often increased.	Diminished as a rule.
Tongue	May be dry and red, with a white stripe down the middle, or smooth and moist, or somewhat furred.	Normal.	Clean or slightly coated.	Almost always bears a thick coating.
Taste	Normal	Normal.	Normal.	May be bitter or sour.
Belching	Generally absent; if present without offensive odor.	Normal.	Normal.	Generally present, and often associated with a foul odor
Regurgitation	Sometimes present, may be water-brash with pyrosis.	Absent.	Water-brash and pyrosis frequent.	Water-brash absent ; pyrosis often intense.
Vomiting	Often present soon after meals.	Often present, and comes on without regularity.	Absent.	Common; occurs once or twice a day, or in two days per aps, but not regularly after meals. If delayed, quantity may be large.
Hematemesis	Large quantities of blood may be vomited, fresh or of coffee-ground color. Blood may occur in stools. Second hemorrhage may occur next day, but if arrested may not reappear for a long time.	None.	None.	Occurs, but not so profuse as in ulcer. Coffee-ground color characteristic. Odor often fetid. In some cases never seen. Vomiting may occur at short intervals.
Secretory Function	1. Gastric juice increased as a rule. 2. Lactic acid absent.	Variable. Absent.	Increased. Absent.	Decreased, as a rule. Generally present.
Tumor	None. Thickened gastric wall (if ulcer is near pylorus) sometimes may be felt.	None.	None.	Tumor present in 75 per cent or 80 per cent of cases. Painful upon pressure, has uneven surface, is easily movable.
Perforation	Sometimes occurs after short illness.	None.	None.	Occurs only in last stages of the disease.
Complexion	Commonly fresh, but after large losses of blood anemic.	Pale.	Pale.	Sallow, sometimes yellowish-green. Skin, dry, harsh; marked cachexia.

In any case where there is doubt the use of the stomach tube to secure the stomach contents is justifiable. If gastric ulcer is present the usual tests will generally show an excess of HCl. Hydrochloric acid in excess may occur in certain neuroses, but other means of diagnosis will make the distinction clear.

Prognosis.—It has been estimated that about 15 per cent of all cases of gastric ulcer recover. The more superficial and recent offering the best prospect for this favorable result if the patient is in good condition and proper treatment adopted. It is encouraging to know that such favorable results have been obtained in the past, and we have just ground for the belief that better results may be reached in the future with modern means of diagnosis and methods of treatment. Osler believes that in uncomplicated cases the prognosis is more favorable than in chronic catarrhal gastritis. Even after a hemorrhage which does not immediately prove fatal, according to Ewald, the prognosis is on the whole favorable. Scars are found post-mortem about twice as often as ulcers. This would indicate that the per cent of recoveries by cicatrization is greater than was formerly supposed. But the scars themselves are sources of danger, the constant irritation and contraction, the interference with digestion, and the discomfort due to dyspeptic symptoms combining to reduce the patient's vitality and shorten his life. The prognosis for a cure in old ulcers is not favorable. Brinton has reported one that has been open for thirty-five years. Others varying from fifteen to thirty years have been reported. Continuous pain irrespective of the introduction of food is an unfavorable symptom, and points to a complicating inflammation. The possibility of cancer originating at the seat of an ulcer will frequently render the prognosis uncertain. It must be borne in mind that relapses may occur.

Treatment.—The successful treatmcnt of gastric ulcer rests in meeting the following indications: 1. Relief of urgent symptoms. 2. Removal of cause. 3. Giving rest to the stomach. 4. Regulation of diet. 5. Aiding general metabolism. 6. Correcting altered condition of bowels.

(1) The urgent symptoms are (a) pain, (b) vomiting, (c) hemorrhage, (d) perforation. (a) The pain may be so excruciating as to require a hypodermic injection of morphine and atropia at once, gr. ¼ to gr. ½ (.016 to .03), or more of morphia and gr. $\frac{1}{150}$ to $\frac{1}{75}$ atropia. If the pain is not too severe, a dose of epsom or rochelle salts to hasten the emptying of the stomach may afford relief. The danger of concurrent hemorrhage contraindicates emetics. Lavage may be used in selected cases, but only soft tubes should be employed, and the fluid should be removed by aspiration, not by the expression method. If the pain has subsided when the physician is called, attention to diet and rest, as directed under the third and fourth indications for treatment, will often be sufficient. The removal of all irritation is necessary to secure relief from pain. Sometimes it is advisable to give anodynes by the mouth. Morphine or opium give the quickest relief usually. If for any reason these cannot be borne, or ought not to be given, coniun, cannabis indica, belladonna and other drugs may be used.

(b) Vomiting, which generally accompanies and often relieves the pain, may sometimes be prevented or ameliorated by the use of bits of ice in the mouth, free doses of subnitrate of bismuth alone or combined with oxalate of cerium. Four grains (.26) of the former and one (.065) of the latter may be used every half hour or hour until relief is obtained. Bismuth and opium are often combined with excellent effect. To prevent the return of vomiting regulation of the diet is of first importance. Bismuth may be given in five to ten grain (.32 to .65) doses four times a day for several days or weeks. Sometimes larger doses are required. Nitrate of silver is a remedy of considerable reputation in this disease, and often seems to prevent or delay paroxysms of vomiting. This drug may be given in doses of 1/8 to 1/4 grain (.008 to .016) three or four times a day. The action is probably localized to the point of lesion, but in cases of general hyperemia of the gastric walls the effects of this remedy and bismuth may be more quickly realized.

(c) The treatment of hematemesis may be general or local. In severe cases a subcutaneous injection of ergot may be required. If I do not have a solution specially prepared for hypodermic use, I do not hesitate to use the fluid extract in doses of 8 to 15 minims (.5 to 1 cc.) in cases of emergency. When the hemorrhage is passed, ice, bismuth and nitrate of silver, as recommended for vomiting, may be used to prevent return. The most essential element in the treatment at this stage is rest in bed. The patient must be kept absolutely quiet. Washing out the stomach with ice cold water is sometimes required as the only means of checking an obstinate hemorrhage, but the precautions before suggested (a) must be scrupulously observed. If the patient is very nervous and morphine has not been administered to control previous pain, small doses may be given alone or combined with ergot hypodermically. I usually give ergot for several days by the mouth to prevent the return of hemorrhage. If dizziness or oppression result from the administration of the drug, I reduce the dose. I prefer to give 3 or 4 minims (.16 to .22) every two or three hours, but frequently give it every hour in 2 or 3 minims (.10 to .16) doses for two or three days and then lengthen the interval.

(d) Perforation requires prompt treatment. Stimulants by mouth or hypodermically should be administered at once. Camphor, aromatic spirits of ammonia and ether are used and many recommend wine, brandy or whisky in cases of collapse. If adhesions occur or have occurred and reaction follows, nux vomica and other "stimulating" tonics should be prescribed. If peritonitis supervenes large doses of opium must be given in suppository or enema and ice cold applications made to the abdomen. If the stomach is full, or if there is doubt in regard to it, the stomach-tube must be used at once to empty the viscus, if possible. The object is to encourage adhesions by localizing the inflammation, and thus save the patient.

(2) The second indication, the removal of the cause, is frequently more difficult to meet. If hot food or drink or irritating food or drink is the cause, it must be interdicted. If amaemia is the cause, attention must be given to that. If atheroma of blood vessels or aneurism be the original morbid condition, there is less hope of successful treatment. If necessary,

occupations, as that of cooks, shoemakers, tailors, and the like, must be abandoned. Beer drinking, indulgence in wine, whisky, strong condiments, and other habits which irritate the stomach must be avoided. The prolonged and excessive use of soda water must be restricted, and the habit of eating chalk, slate pencils, and other indigestible materials, so common amongst chlorotic girls, should be prohibited. Remembering the belief expressed above that a failure in nutrition and local obstruction of the circulation occurring with hyper-secretion of HCl is the chief cause of ulcer, the maintenance of a liberal diet and correction of hyperacidity will be suggested as rational treatment where an attempt is made to remove the causal factor.

(3) The third indication in the treatment of ulcer of the stomach is functional rest. The *rest cure* as applied to the stomach may require absolute rest in bed and a total abstaining for a time from the administration of food in the usual way. In cases of hemorrhage we have already seen that rest in bed is necessary. On account of great exhaustion and the danger of a return of hemorrhage it is frequently necessary to prolong this rest. It often happens that rectal alimentation is demanded because the stomach will not bear the presence of the irritating food without pain, vomiting and hemorrhage. If resort must be made to rectal alimentation two or four ounces (60 to 120) of concentrated beef-tea or cream should be injected into the bowel every 3 or 4 hours, depending upon the condition of the patient and the sensitiveness of the anus and rectum to determine the frequency and quantity.

(4) The regulation of the diet, mentioned here as the fourth indication to be met, is of the utmost importance. All irritating articles of food should be avoided. Food taken by the mouth must be bland. Milk, raw or sterilized, and partially or completely predigested, as the condition of the patient indicates, should constitute the chief diet. Peptonized beef tea and egg, artificial foods prepared from milk or the cereals and water in moderate quantities may be allowed. Large meals and large quantities of water must be avoided until recovery seems to be complete. The enlarging of the dietary list should not be permitted usually under 3 or 4 weeks. After that time in favorable cases, fish, foul and starchy foods may be gradually added. Carlsbad and other alkaline waters may be useful. Alcoholic and malt liquors ought to be prohibited.

(5) Aiding general metabolism is accomplished by scrupulously carrying out (4), what has been said in regard to diet, by using all means at our disposal to assist digestion and by the administration of tonics. Malt, iron, nux vomica, quinine, arsenic, and the vegatable stomachics serve an excellent purpose. General massage, electricity, lavage, fresh pure air, sunshine, out door exercise and pleasant surroundings will hasten a cure after convalescence is fully established. Residence by the seashore, surfbathing and nutritious food will generally serve to restore the natural metabolic processes.

(6) If an altered condition of the blood is at the basis of the formation of gastric ulcer, as believed by Ewald and others, an attempt to correct this morbid condition early is imperative. It has been found that potassium is

deficient in the blood in these cases. Such being the case those foods (vegatable) which contain this agent in comparatively large quantity should be allowed as early as practicable. The administration of carbonate of potassium in view of the condition of the blood would seem to be a rational element in the general treatment. The albuminate, pyrophosphate, citrate, and other mild preparations of iron are valuable. Hemoglobin should be given when iron cannot be borne. The glycerine extract of bone marrow is valuable in many anaemic cases. The arsenious acid should be given 2 or 3 days in each week (gr. $\frac{1}{30}$, .002) for months (Liebreich).

[TO BE CONTINUED.]

Small-pox Therapy.—The prevalence of a mild type of small-pox throughout the country gives the therapy of that disease especial interest at the present time. Vaccination is, of course, unquestionably not to be overlooked as a preventive measure, but in addition infection may be made much more unlikely and, where infection has taken place, the course of the disease considerably shortened and shorn of its terrors by the administration of the valuable anti-purulent ecthol. The Battle Company has just issued a pamphlet dealing with the use of ecthol in this disease. The pamphlet should be in the hands of every physician who may be called upon to treat small-pox. It will be sent to any physician who makes the request.

The Maltine Contest.—We take great pleasure in calling our readers attention to the offer made by the Maltine Co. of two prizes, one of $1000 and the second for $500, for the two best essays on Preventive Medicine. In offering these prizes the Maltine Co. has used every precaution to make the contest purely ethical, the specifications clearly indicate that the object is to promote scientific research along the lines of preventive medicine. In Europe this method of stimulating investigation is more prevalent than in America, it is seldom that so generous an offer is made to American students. The prizes are so large, the judges of such high standing, and the conditions governing the competition such as to enable the most ethical man to compete without compromising himself. The three judges are not only men of the first rank, but represent different sections of the country and different branches of the profession. Dr. Lewis being a surgeon and editor of one of the leading medical journals; Dr. Reed a gynecologist and former president of the American Medical Association, and Dr. Rhodes, a purely medical man. Then again, the subject is such a broad one, that every intelligent practitioner, whether he makes a specialty of surgery, pediatrics, gynecology or internal medicine, or is simply an all around family doctor, can write upon it. The reputation of the Maltine Company and of the judges they have selected is an absolute guarantee of the integrity of the contest. We trust that at least one of the winners may be from among the readers of the FORTNIGHTLY.

Fortnightlettes

THE MEDICAL ASSOCIATION OF MISSOURI will reorganize at its meeting in St. Joseph in May, and all county societies are requested to send delegates, with a view to affiliation with the American Medical Association.

THE SOUTHWESTERN IOWA MEDICAL ASSOCIATION will hold its annual meeting in Creston, on February 20th. The efficient secretary, Dr. Sampson, has prepared an interesting program, and the profession is cordially invited to attend.

THE SAMUEL D. GROSS PRIZE of $1,000 for original research in surgery, has been awarded to Dr. R. H. M. Dawbarn, of New York. His treatise is entitled "The Treatment of Certain Malignant Growths by Excision of Both Carotids."

DESK CALENDAR.—The Scott & Bowne calendar for 1902 appears in its usual good form. It has become a regular and well-nigh indispensable visitor, for no desk is complete without some such ready reminder of duties that otherwise might be forgotten. This one, too, is a reminder of many uses, new and old, of Scott's emulsion that must prove of value to a vast number of physicians. It will be sent on application to any who may have been overlooked in its distribution.

THE KANSAS CITY ACADEMY OF MEDICINE held its annual banquet on the night of January 9th, with 150 in attendance. Dr. George W. Webster, of Chicago, was the guest of honor, and responded to the toast, "The Medical Profession in the West." Other speakers were Drs. H. C. Crowell, E. G. Blair, W. E. Kuhn, R. T. Sloan, J. H. Thompson and J. N. Jackson. The following officers of the Academy were installed: President, Dr. J. W. Gaines; Vice-President, Dr. C. B. Hardin; Secretary, Dr. J. G. Lapp; Treasurer, Dr. C. Lester Hall; Censor, Dr. G. E. Bellows.

MEDICAL SOCIETY OF THE MISSOURI VALLEY.—The program for the Lincoln meeting, on March 20th, is nearly completed, and includes a number of interesting topics from members, as well as some volunteer papers from eminent men in Chicago. Dr. Harold N. Moyer, the well-known neurologist, will present a paper. Dr. Palmer Findley, who gave a most entertaining lecture at the last meeting, will again favor the society with a practical demonstration in Pathology; Dr. B W. Sippy, who is doing such good work in internal medicine at Rush, will hold a clinic, and Dr. J. Homer Coulter, laryngologist at the Clinical School, will present "The Suppurating Ear." Program will be issued the latter part of the month, and further information may be obtained by addressing the secretary.

MEDICAL MEMORANDA.

CONCERNING ACESTORIA.

Acestoria is distinguished as the antiseptic anaesthetic local.

There may be others, but this is such par excellence.

The formula is before the profession, and it is a thoroughly good formula, scientific and common sense.

If we study it over cursorily, we find there the desirable constituents. Taking them altogether, one is convinced before he has even seen Acestoria that it possesses powerful anaesthetic properties. It can scarcely be otherwise. Every constituent has found out its fixed place in therapeutics, and there is not one among them that has not been tried and approved, with the records in the text books, the medical press and weighty papers read before scientific societies.

A powerful combination. We pronounce the words with wholesome respect. A powerful combination, but—there attaches a bit of rational demurrer. Powerful anaesthetics of local employment are not wholly deprived of dangerous qualities. As a rule, they depress. But Acestoria does not do this, as there is introduced an ingredient that forbids any such effect.

Experience has not long been mentioned, but it may be placed on record that, wherever employed as directed, no pain has proved rebellious to the treatment.

That is certainly honor enough. But it is honor that is brightened by the further statement that those who have employed Acestoria never before met with such certain and efficacious results.

This means extraordinary success.

It means an analgesic of the greatest local power possible.

It does not mean simply a diminution of sensibility. It does not mean any mere freezing of the part treated.

It means a very notable advancement in anasthetic application. This:

Ancestoria, as employed in the laboratory experiments, possesses the power to dissolve protagon. It does this completely, and—purchasing the proper laboratory language—beautifully.

Now, of course, protagon is present in the nerve cells, and there it is effected by the anaesthetic. That is, the application tends to cause a coagulation of albuminous substances; and in the application it is to be noted that the nerve tubes momentarily lose their transparency, explaining the anaesthetic as a result of a semi-coagulation of nervous protoplasm.

Understanding this, our appreciation of Acestoria should grow. There are no disadvantages.

A comparatively small quantity is required.

No disagreeable sensations precede the anaesthetic effct.

Thre is no nausea and vomiting, no discomfort, no bronchial irritation. No nervous function is compromised.

The nitro-glycerin which is present precludes, or at least antagonizes, any depression of the heart or the arterial tension.

On the contrary, several observers have stated that, during the anaesthesia, an increased systolic energy has been observed.

Again, no inhibitory action of the pneumogastric ensues. Reflex action is so fully abolished that there can be no paralyzing influence.

The anaesthetic effect disappears quickly, without a single disagreeable after effect. The action manifests itself pleasurably.

Several applications can be made without discomfort. No unusual care is required. The effect can be regulated with a nicety, both as regards the intensity and the area.

Not only has Acestoria its province in surgical dentistry, but it may be employed in nearly all of the numerous minor surgical operations. Indeed, no minor surgery case is completely stocked without it. Among the many small, but more or less painful operations in which it renders the effect of entire painlessness, are the opening of abscesses, the amputation of fingers, circumcisions, the opening of felons, operations on ingrowing toenails, etc.,

Something like very remarkable success attends its use wherever employed, and this is due entirely to its intrinsic merits. One does not need to say that it is "so much better than any other anaesthetic" for the good and sufficient reason that there it no other local anesthetic of a similar character.

If we look carefully at the category of faults ascribable to local anaesthetics, for one reason or another, or for many diverse reasons, we find no amenability on the part of Acestoria.

It is not only in the Materia Medica with staying qualities, but as well it is becoming to the position that it occupies, a stable antiseptic anaesthetic.

W. H. MORSE, M. D.,
Consulting Chemist, New York.

A CLINICAL REPORT ON TERP-HEROIN (Foster).

Harry P. Schlansky, M. D., Physician to Beth Israel Hospital, New York City, says: I have used Terp-Heroin (Foster) in about twenty-five cases in my private and dispensary practice and from its use I have received excellent results. The following are a few cases in brief: Case I—Mrs. G. K. has tuberculosis; coughs and expectorates profusely; bothered a great deal; prescribed Terp-Heroin (Foster) oz. ii, q 3. h. and the patient told me it has relieved her a great deal of the distressing cough. Have advised her to continue use of the preparation.

Case II—C. L., male, chronic bronchitis, cough and pain; prescribed oz. ii, q 2. h. and it decreased cough and pain.

Case III—Mrs. A. C., bronchitis; cough with pain; prescribed oz. i, q 2. h. and it relieved her of the cough. (Patient claimed "it worked wonderful.")

Case IV—Mrs. B. M., asthma; coughed a great deal and which kept her awake mostly all night; prescribed Terp-Heroin oz. ii, q 2. h. and results were excellent; patient claimed she slept better at night than before the use of the preparation.

Case V—T. C., child, age 2 years; bronchitis; prescribed 15 drops q. 3. h. and results were excellent.

Case VI—H. T., tuberculosis; gave Terp-Heroin for cough and it gave most gratifying relief; prescribed oz. ii, q. 2. h.

I could write out many more cases in which I have used the preparation, but the few cases cited above will serve to show the excellent results obtained. It is a meritorious remedy and should receive the careful attention of every practitioner.

THE TREATMENT OF NASAL CATARRH BY THE GENERAL PRACTITIONER.

By Eugene C. Underwood, M. D., Sugeon B. & O. S. R. R.; Surgeon K. & I. B. Co., etc., Louisville, Ky.

I have long entertained the view that the general medical practitioner neglects to treat his patients for catarrh and sends them to a specialist when he could successfully manage these himself. In fact, the treatment of catarrh is very simple and the results which follow correct and systematic treatment are very satisfactory. In practice two forms of chronic nasal catarrh are met. These are hypertrophic rhinitis and atrophic rhinitis.

The hypertrophic form is more generally seen, and is characterized by a thick mucous discharge from the nose, great liability to colds, obstruction of one or both nostrils, which forces the patient to breathe through his mouth, nasal intonation of the voice. There is more or less headache and the sense of smell is lost or impaired. There is dryness of the throat, deafness and other symptoms showing the extension of the disease to neighboring organs. Exostosis of the osseous structures often is seen.

Atrophic rhinitis (ozena) is characterized by a sense of dryness in the nose and throat, a thick, purulent discharge and the expulsion of discolored crusts and an offensive putrid odor. The sense of smell is impaired and the patient is weak and anemic.

The mucous membrane is dry and glazed, but in advanced cases ulceration and necrosis are present.

The treatment consists of applications directly to the diseased area and the administration of such internal remedies as will correct any coexisting disease or morbid state. In some cases where there is occlusion by exostosis the resources of surgery must be invoked.

Let me examine more in detail the treatment of the types of nasal catarrh.

In simple chronic hypertrophic rhinitis the results of treatment will be most flattering. In a case attended with no constitutional disease nothing is necessary beyond having the patient spray the nasal mucous surface with a solution composed of equal parts of water and Hydrozone every three hours.

If the case has persisted some time and the patient has an amount of mucous discharge, I have him take twenty drops of balsam of copaiba four times daily. The Hydrozone is not only a disinfectant and germicide, but its curative action on the inflamed mucous membranes is speedy and is not equaled by any other drug I have ever used. When the patient is anemic I have him take iron, and any other drug is used when it is called for by any associated disease or morbid condition, but the Hydrozone spray is used in all cases.

In the atrophic variety we shall have to use the same local application. The Hydrozone at once overcomes the offensive odor and takes off the purulent crusts.

These cases must be treated with cod liver oil, iron and such other remedies as will bring up the general health.